

Amendments to the Claims:

This listing of the claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A micro-electro-mechanical systems (MEMS) accelerometer comprising a wafer micro-fabricated to provide frame defining an opening, a sensing mass disposed within the opening of the frame, a pair of aligned pivot beams ~~formed integrally with~~ interconnecting the frame and the mass, and at least one relatively long sensing mass, said pivot beams and said at least one sensing beam all being formed integrally from the wafer, said pair of aligned pivot beams and defining a pivot axis ~~for the mass, the pivot beams being disposed so that pivoting of the mass with respect to the frame about said pivot axis is~~ displaced from the center of gravity of the mass whereby said mass when subjected to acceleration is constrained by the pivot beams for performing only rotational pivoting movements about said pivot axis, and said at least one relatively long sensing beam ~~connecting the mass to the frame and is~~ arranged such that pivoting movement of the mass about said pivot axis ~~will~~ distorts the sensing beam, whereby pivoting movement of the mass may be detected by sensing the distortion of the sensing beam.
2. (original) A MEMS accelerometer as claimed in claim 1, wherein the mass is connected to the frame by two sensing beams extending from opposed sides of the mass to the frame whereby the sensing beams are distorted in opposite senses upon the mass performing pivoting movement.
3. (previously presented) A MEMS accelerometer as claimed in claim 1, wherein the frame, the mass, the pivoting beams and the at least one sensing beam are all produced from a single wafer of semiconductor material by micro-electro-mechanical systems techniques.

4. (previously presented) A MEMS accelerometer as claimed in claim 3, wherein the at least one sensing beam is of a piezo-electric material whereby the distortion of the at least one sensing beam may be detected by determining a change in the electrical characteristics of the piezo-electric material.
5. (currently amended) A MEMS accelerometer as claimed in claim 1, wherein the at least one sensing beam includes implanted or deposited metallic components whereby the distortion of the at least one relatively long sensing beam may be detected by determining a change in the electrical characteristics thereof.
6. (previously presented) A MEMS accelerometer as claimed in claim 2, wherein the sensing beams are co-axial and extend substantially co-linearly in opposite directions away from opposed sides of the mass to the frame.
7. (currently amended) A MEMS accelerometer as claimed in claim 1, wherein the mass has the general shape of a cuboid and the at least one relatively long sensing beams extend from a face thereof to the frame.
8. (currently amended) A MEMS accelerometer as claimed in claim 7, wherein the pivot beams are disposed substantially centrally of the face from which the pivot beams extend, said pivot axis extending transversely across that face.
9. (previously presented) A MEMS accelerometer as claimed in claim 8, wherein the pivot axis of the pivot beams lies in one of (1) within the plane of said face and (2) adjacent the plane of said face from which the at least one sensing beam extends.
10. (previously presented) A MEMS accelerometer as claimed in claim 7, wherein the at least one sensing beam has a substantially rectangular profile, in the plane of the face of the mass from which said sensing beam extends.

11. (previously presented) A MEMS accelerometer as claimed in claim 1, wherein the at least one sensing beam and the pivot beams are substantially co-planar when the accelerometer is at rest.

12. (currently amended) A MEMS accelerometer as claimed in claim 1, wherein the frame defines a first and a second ~~two~~ openings in each of which is provided a similar mass, thereby defining a first and second mass, each mounted in the respective opening by a respective pair of pivot beams and at least one respective sensing beam.

13. (currently amended) A MEMS accelerometer as claimed in claim 12, wherein the at least one sensing beams of a first and a second mass ~~the two masses~~ are substantially co-planar but the respective pairs of pivot beams are substantially orthogonal, whereby the two masses sense acceleration in orthogonal directions.

14. (previously presented) A MEMS accelerometer as claimed in claim 12, wherein the frame defines a third opening and a third mass is disposed within the third opening, the sensing axis of the third mass being substantially orthogonal to the sensing axes of the first and second masses.

15. (original) A MEMS accelerometer as claimed in claim 14, wherein the third mass is supported on one or more sensing beams.

16. (previously presented) A MEMS accelerometer as claimed in claim 15, wherein the third mass is supported by four sensing beams extending in two directions orthogonal to each other.

17. (original) A MEMS accelerometer as claimed in claim 16, wherein the third mass has the general shape of a cuboid and the four sensing beams extend respectively from each of the four edges of a face of the third mass to the frame.

18. (original) A MEMS accelerometer as claimed in claim 17, wherein the four sensing beams associated with the third mass are substantially co-planar with the sensing beams of the other two masses.

19. (previously presented) A MEMS accelerometer as claimed in claim 4, wherein the at least one sensing beam carries piezo-electric material whereby the distortion of the at least one sensing beam may be detected by determining a change in the electrical characteristics of the piezo-electric material.